

South Dade Operations and Flooding Follow-up

Water Resources Advisory Commission
May 7, 2015

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Background

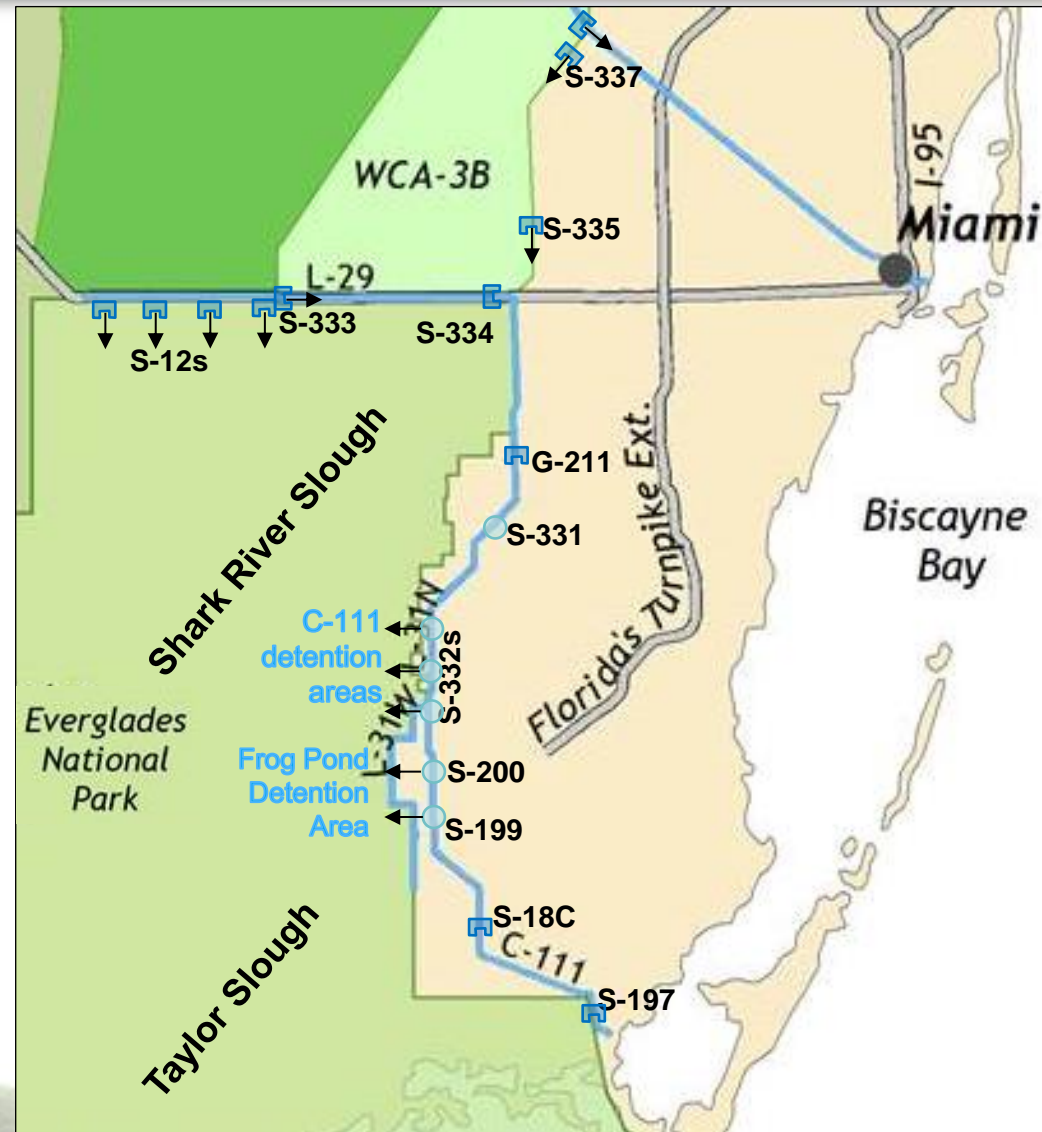
- South Dade Operations and Regional Management of Water for Agriculture (January 2015 WRAC)
- Governing Board tasked staff to evaluate the agricultural flooding issue in South Dade County (January 2015 Governing Board)



Current Operations in South Dade

Column 1 – E RTP 2012

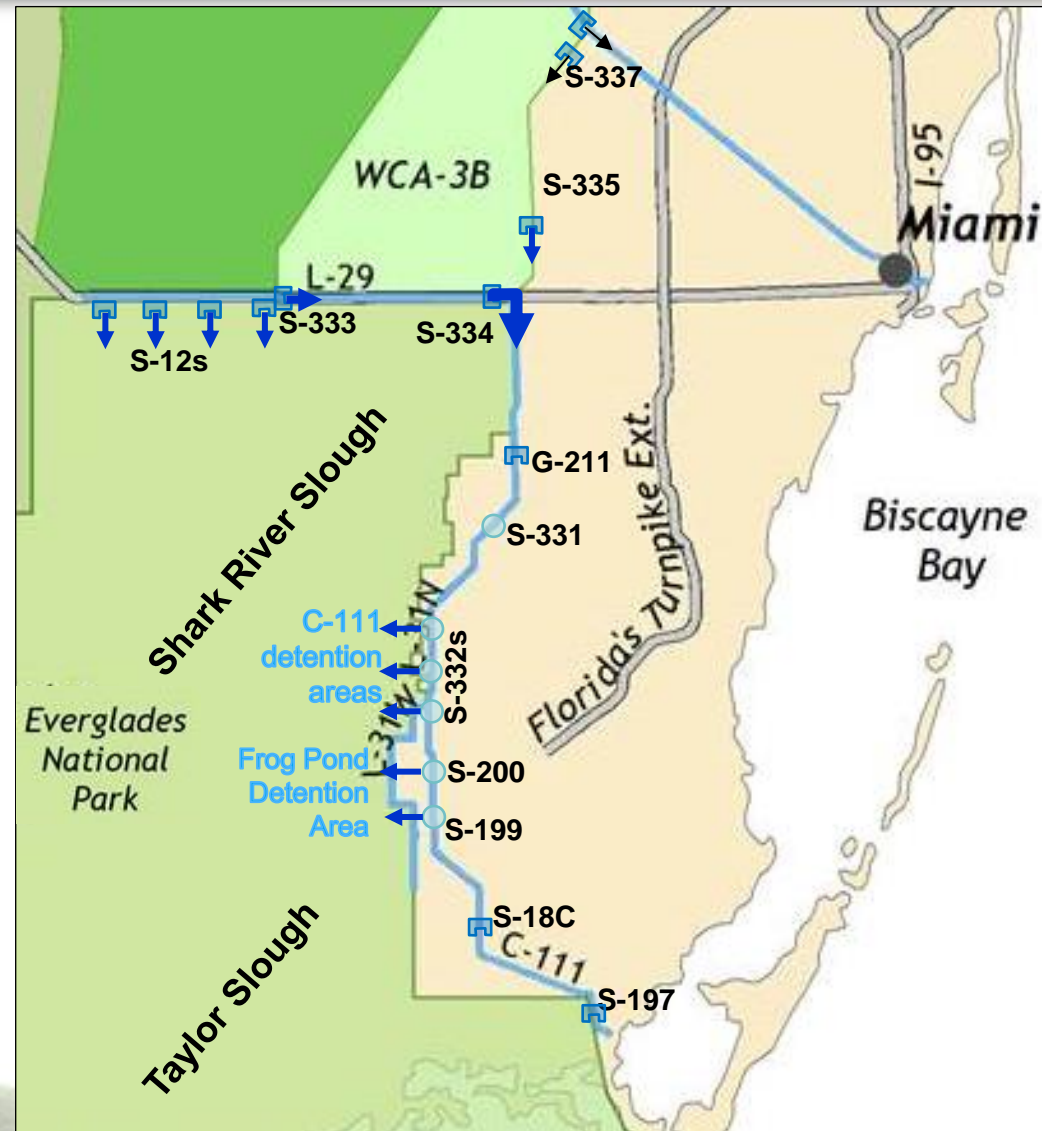
- Releases from WCA 3A to Everglades National Park (ENP) based on Regulatory Release or Rainfall Plan
- CSSS and G-3273 can limit flows to ENP
- S334 remains closed except for water supply deliveries
- Closure periods
 - S12A Nov 1 to July 14
 - S12B Jan 1 to July 14



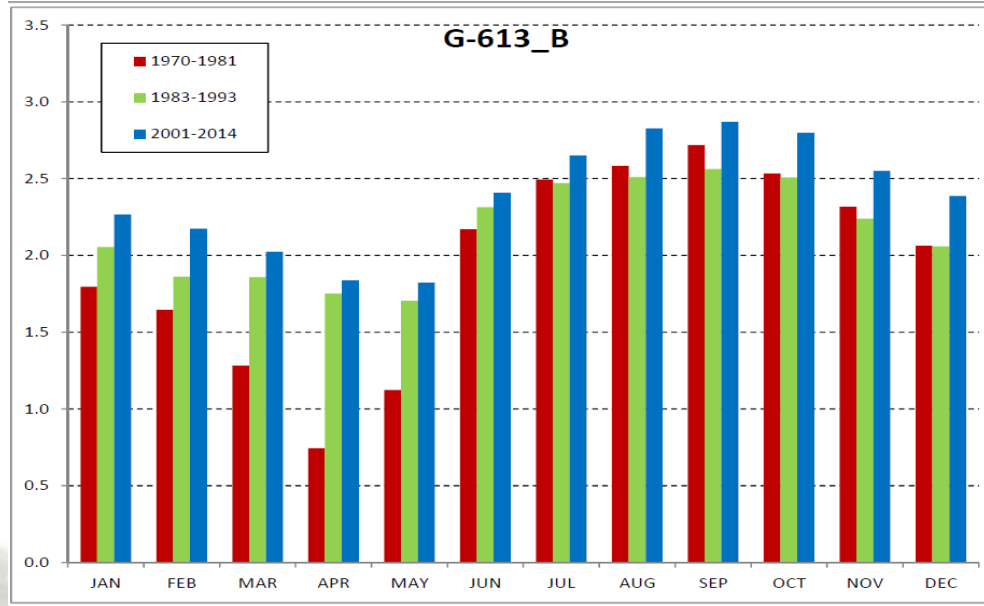
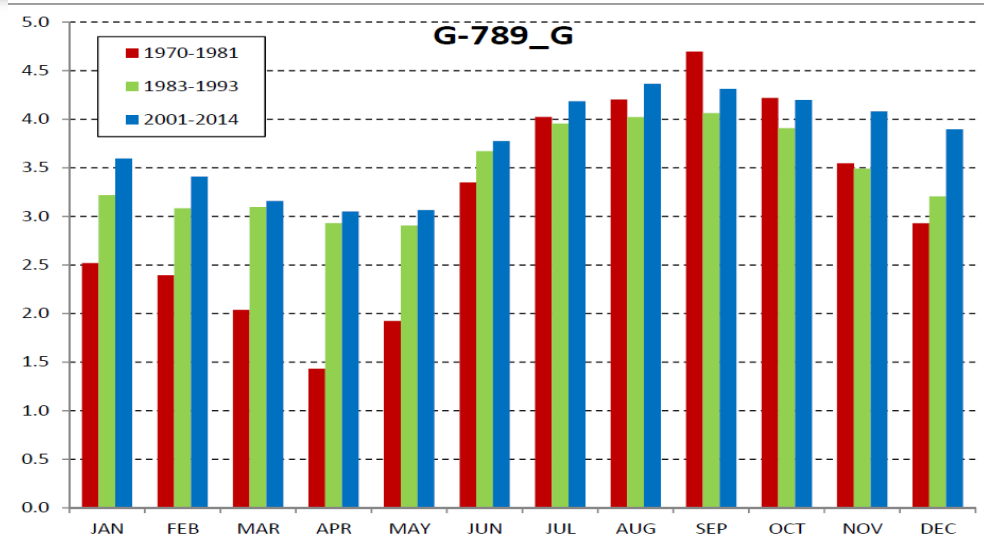
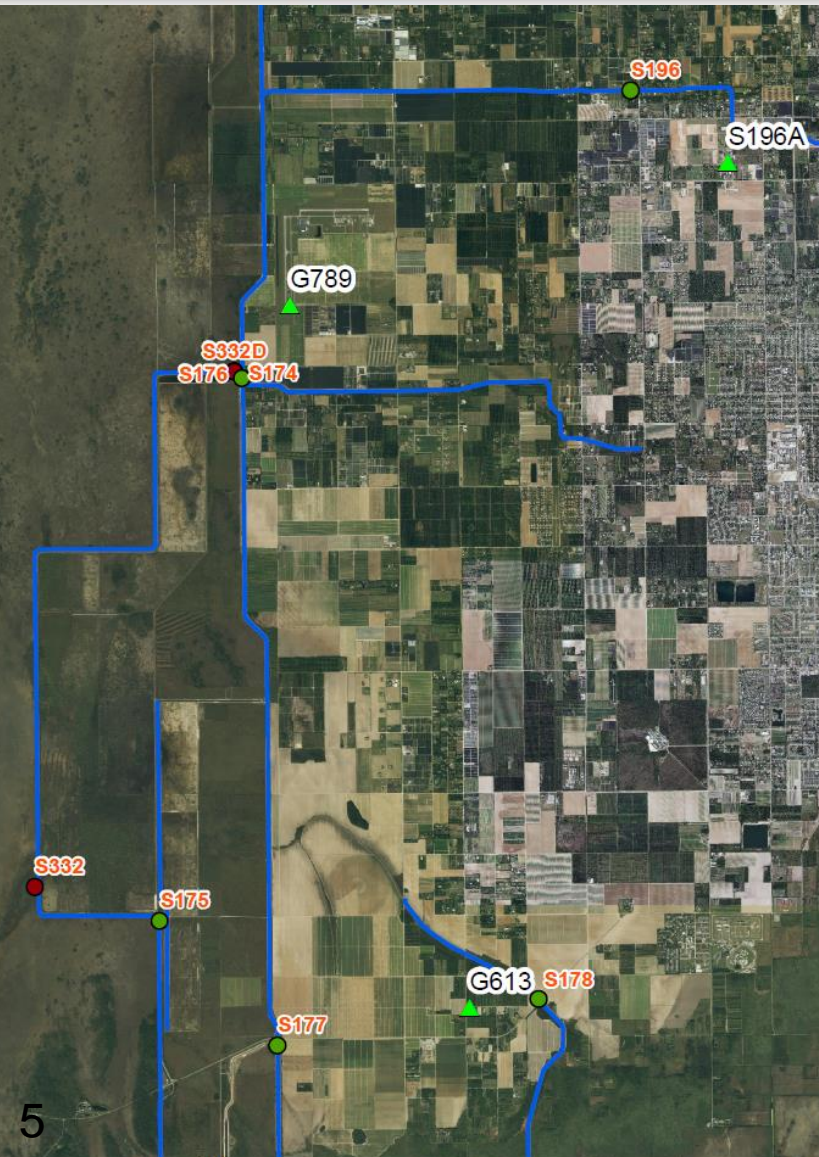
Current Operations in South Dade

Column 2 – E RTP 2012

- Releases from WCA 3A to South Dade and ENP based on Regulatory Release or Rainfall Plan
- CSSS and/or G-3273 limits flows to ENP
- S-333 (subject to L29 stage) and S-334 route flows to SDCS



Monthly Average Groundwater Levels



MWD/C-111 South Dade Increment 1 Field Test

First increment of the Incremental Approach for a Comprehensive Operating Plan for the region

Increment 1 Field Test

- Maintains current operating limit constraint of 7.5 feet in L-29
- Relaxes the G-3273 constraint for S-333
- Utilizes S-356 for control of seepage to the L-31N Canal
- Revised S-197 operations
- Duration 1 to 2 years



Schedule / Status

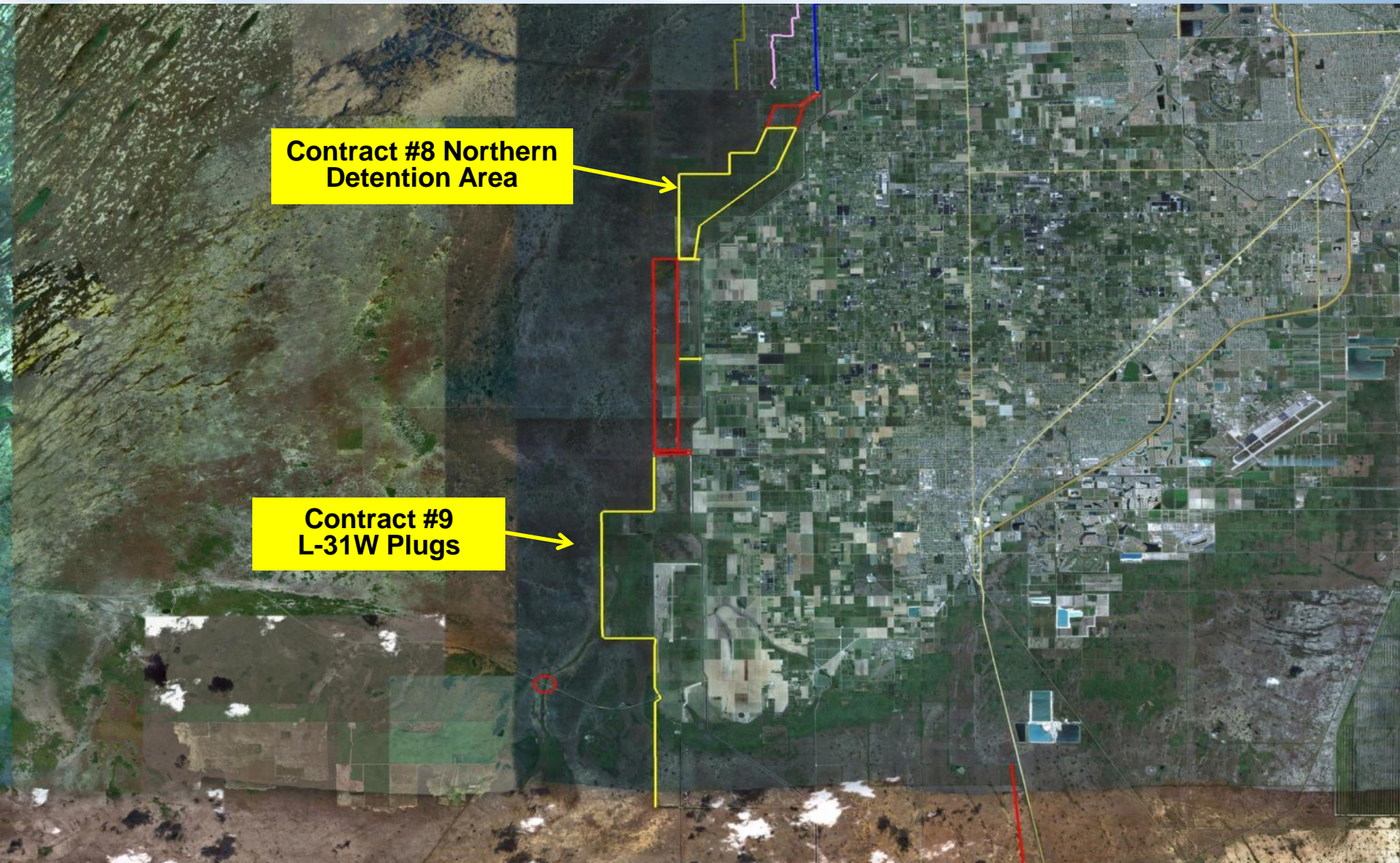
- Test Authorization Received 13 Mar 15
- Finalize EA 27 Apr 15
- Sign FONSI 18 May 15
- SAD Approve Deviation June 2015
- Implement Increment 1

A close-up photograph of a green leaf with several large, clear water droplets resting on its surface. The droplets are in sharp focus, reflecting light. The leaf's texture is visible. In the bottom left corner, there is a small logo that reads "7stwind.gov".

7stwind.gov

Source: USACE

C-111 South Dade Project

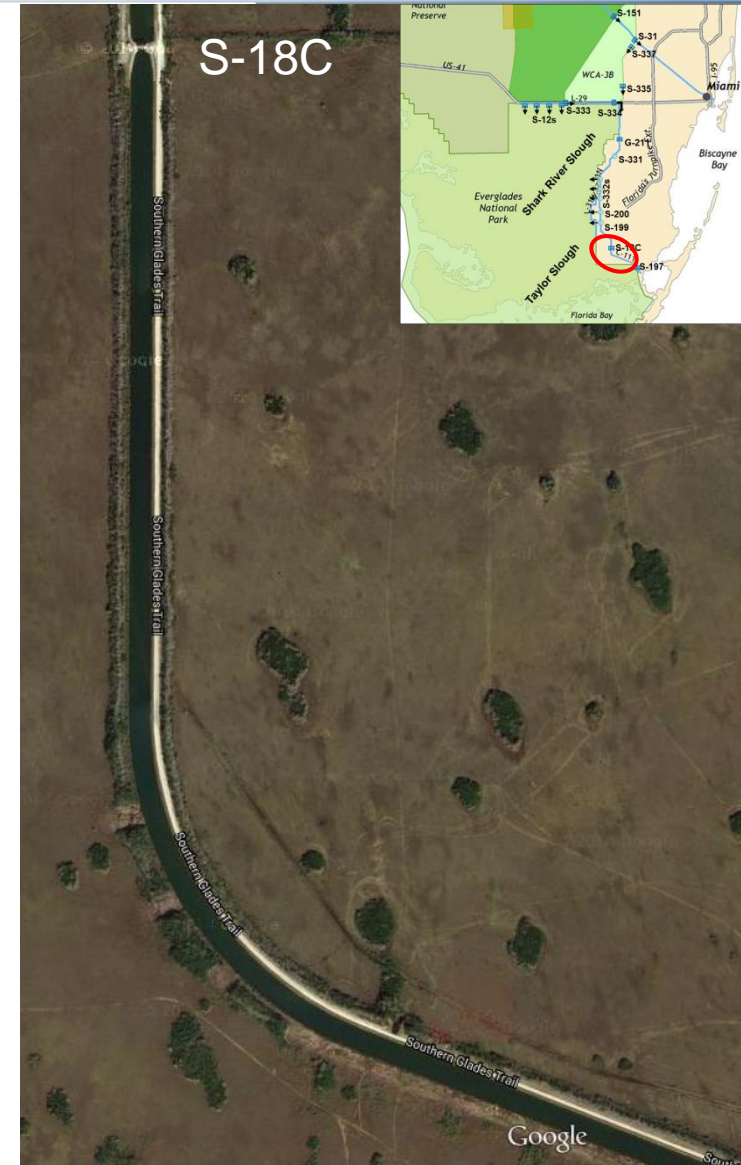


**Contract #8 Northern
Detention Area**

**Contract #9
L-31W Plugs**

Vegetation Management

Removal of vegetative debris and sediments to ensure hydraulic features implemented in south Dade continue to function as designed.

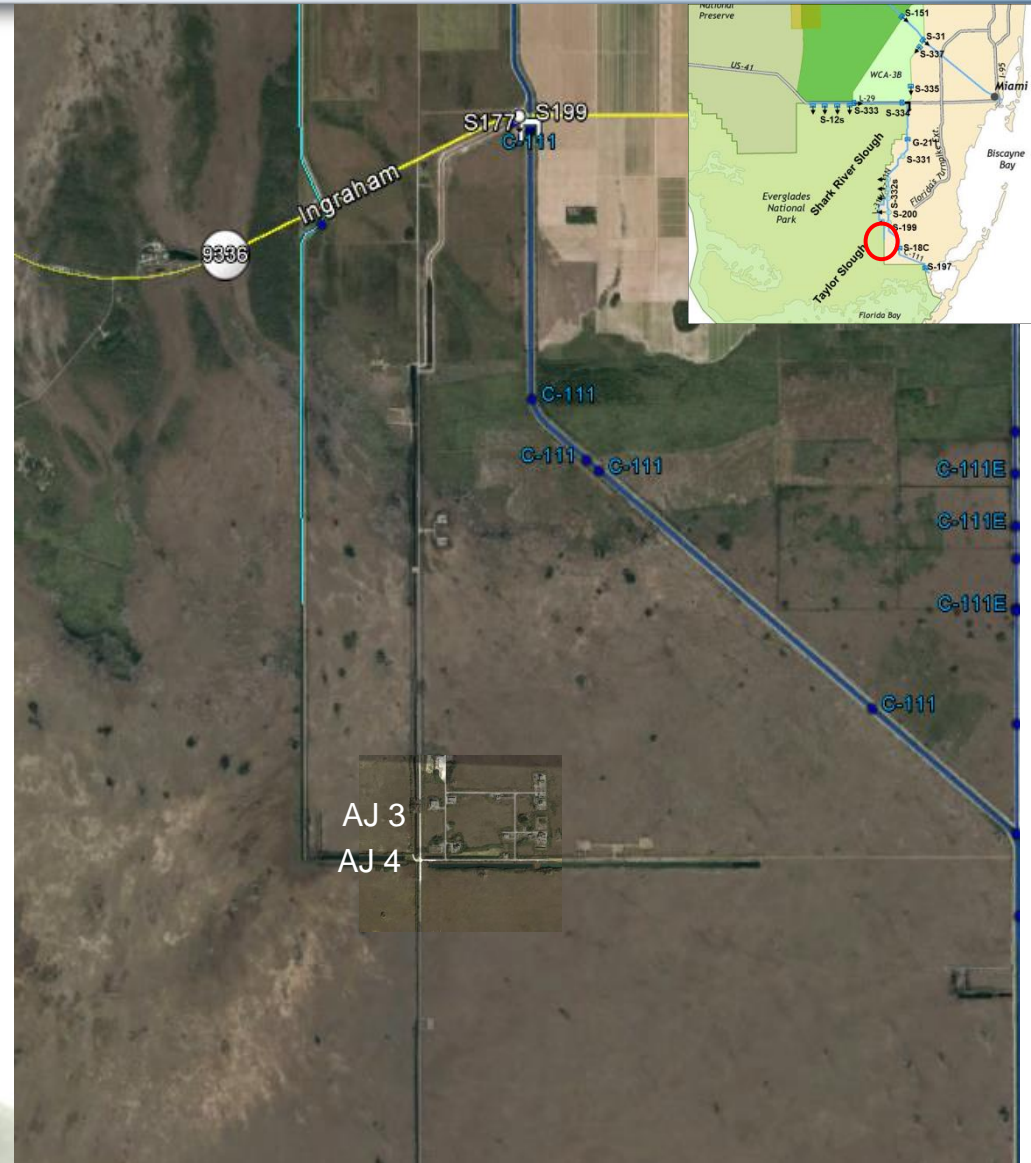
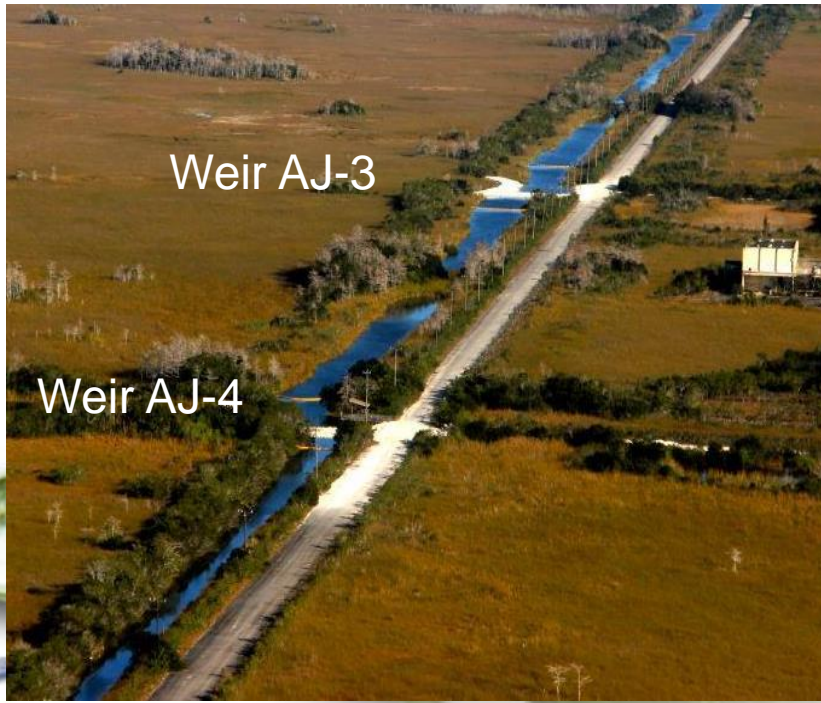


C111 Canal South of S18C Showing Cuts where the vegetation was removed



C-111 Spreader Canal Western Project – Aerojet Canal

Construction work to lower Weir elevations at AJ-3 and AJ-4 and plugging of the E-W borrow canals to promote southwards flow.



Completed Works at Aerojet 3 Weir

AJ-3

Lowered elevation of existing plug to become weir allowing fresh water to flow south



Completed Works at Aerojet 4 Weir

Lowered elevation at Weir AJ-4 and plugged E-W Borrow Canal allowing fresh water to flow south





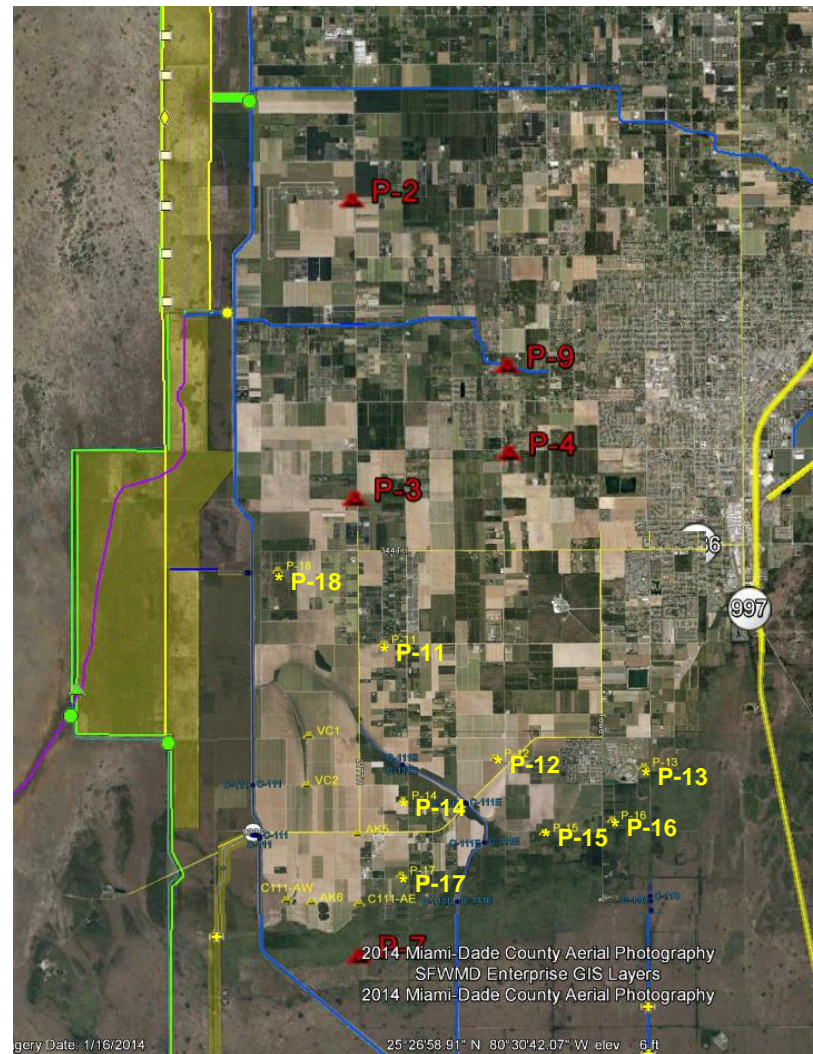
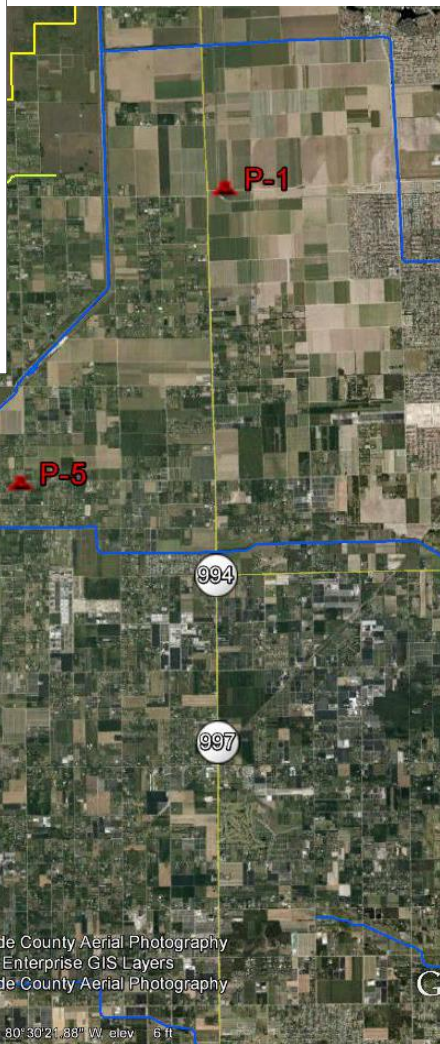
IFAS Tropical Research and Education Center Contract

Contract extension executed in January 2015

- Install additional groundwater monitoring wells
- Collect and analyze groundwater, rainfall and canal data
- Develop groundwater flow model to simulate water table elevations for the project study area.
- Identify areas with varying degrees of risk associated with current land use practices within the study area.



Approximate Location of Additional IFAS and SFWMD Monitoring Wells



LiDAR Data and Analysis

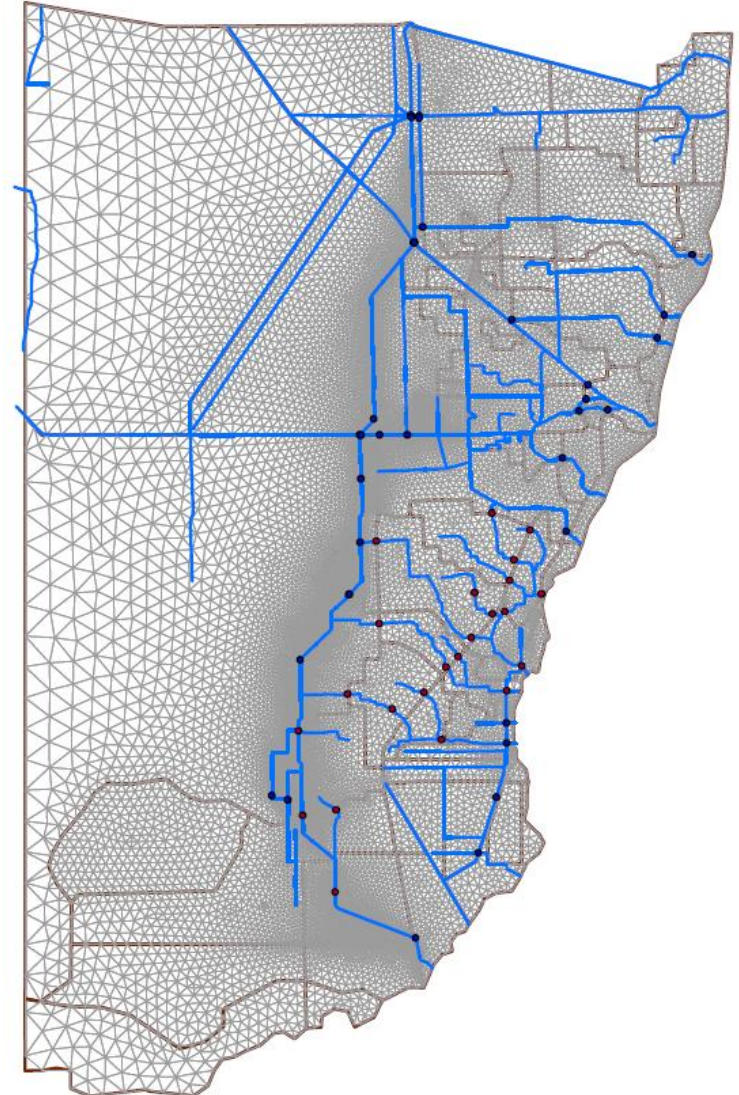


Completed so far

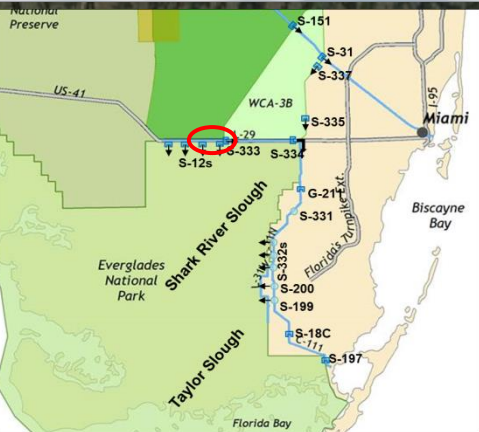
- H&V Control
- Aerial targets set
- Flight
- LiDAR ground-truthing

Model Development

- Effort underway in collaboration with partner agencies to develop operational model for South Dade using Regional Simulation Model (RSM)



Old Tamiami Trail – Flow Enhancements/Modifications



WCA 3A

WCA 3B

Old Tamiami Trail

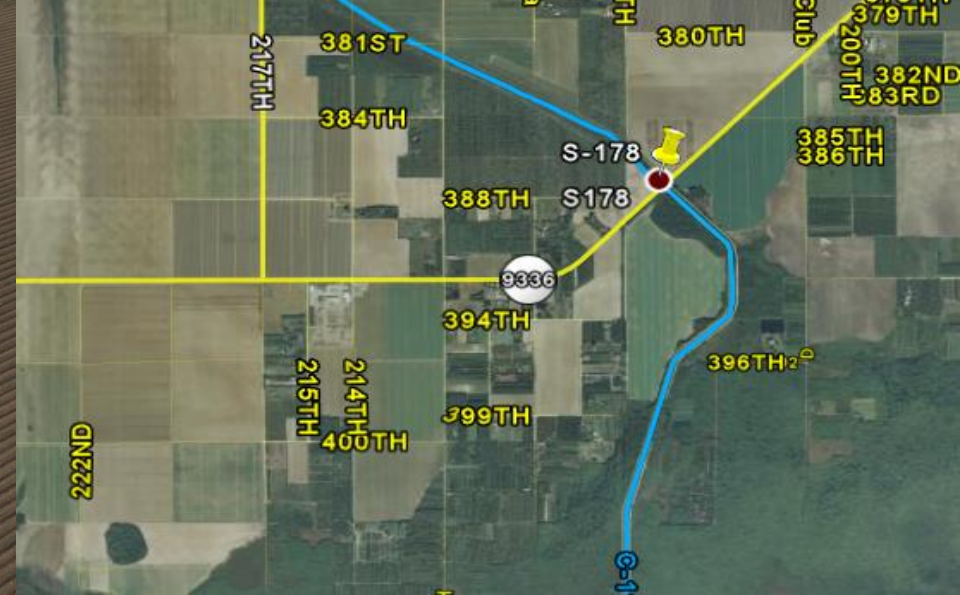
Old Tamiami Trail

L-67
Extension

AREA UNDER CONSIDERATION
FOR FLOW ENHANCEMENT /
MODIFICATIONS

Shark Valley
Visitors Center

Potential Structure Automation



Summary

Several efforts are ongoing that would help address flooding concerns in South Dade

- Increment 1 is the highest priority with potential to help manage seepage in the South Dade Conveyance System
- Construction of projects elements and maintenance of cuts in canal banks to improve flow and drainage in the South Dade Conveyance System
- Additional studies, tool development and investigations



Questions



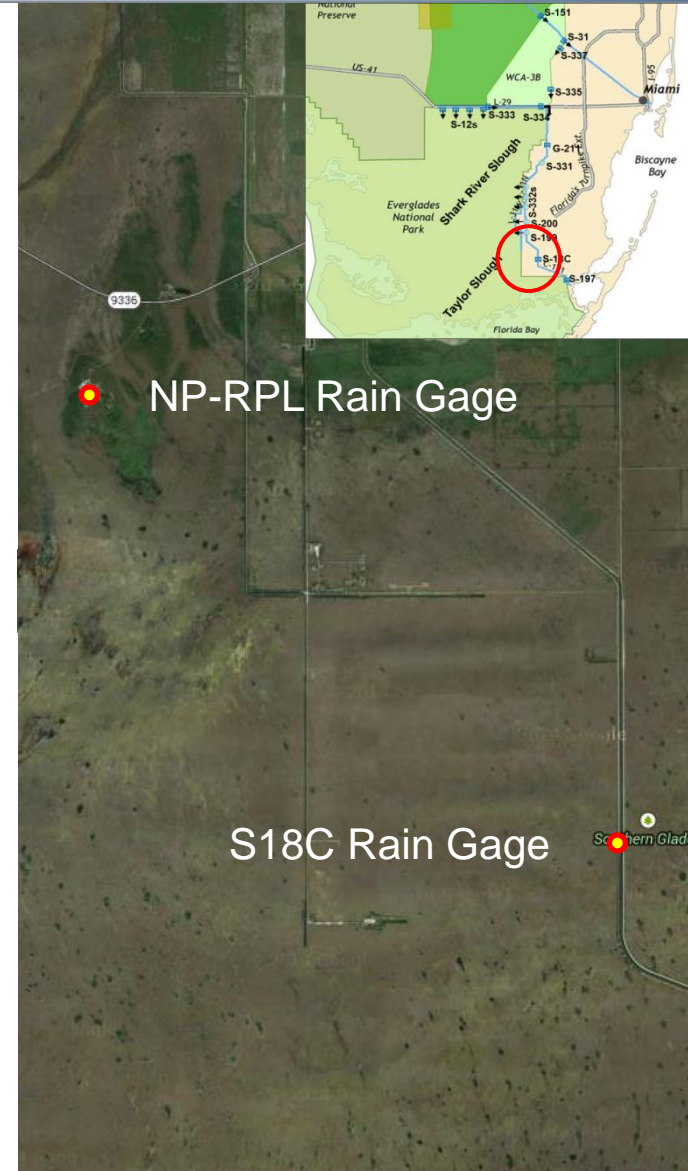
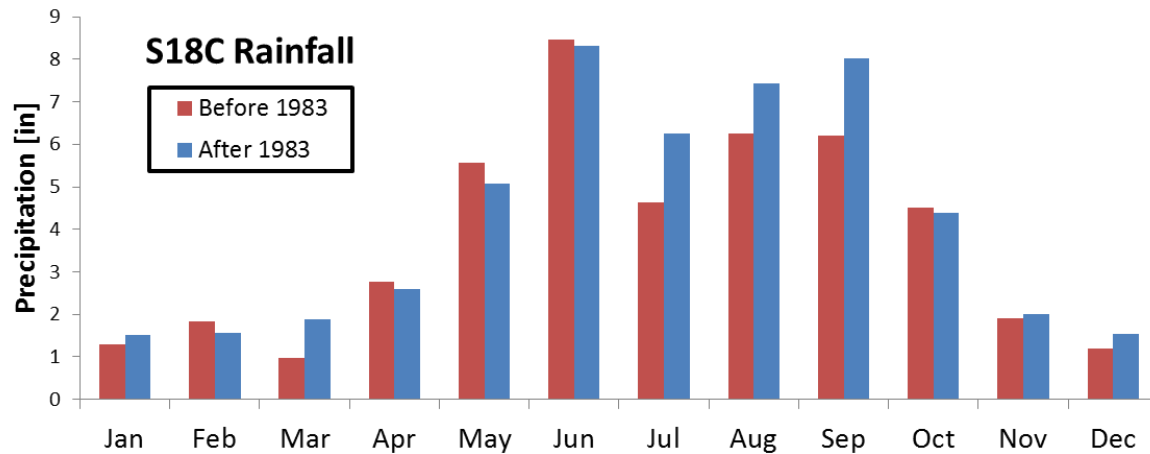
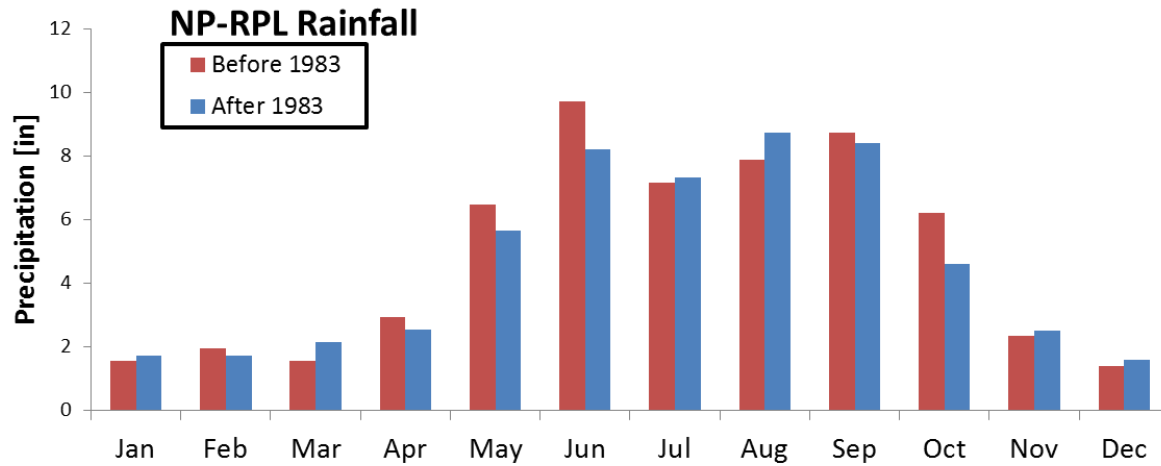
April 29, 2015



April 29, 2015



Average Monthly Precipitation



NP-RPL Rain Gage

S18C Rain Gage